

THE MAKING OF AN ENTOMOLOGIST

MARCIO ANTONIO DE CARVALHO

Belo Horizonte, Brazil

The following is an outline of the early years and family life of José Candido de Melo Carvalho, as remembered by me, with the aid of relatives (stepmother: Candida Vilela Carvalho (1892-); half brothers: Bolivar (1923-) farmer, Cassio (1925-) farmer, and Marcio (1936-) commercial pilot; half sisters: Mariana (1924-) farmer's wife, Gilda (1927-) farmer's widow, Lucia (1929-) retired teacher) and his own notes. It is with great pleasure that we present this information on such an accomplished man and good brother.

We believe the report that follows is an accurate description of what we know about José. Some topics may be hard for conservationists to appreciate, but these activities occurred in the 1920s in an aggressive environment where such things were different than they are today.

José, best known by family and friends as Zezinho (Joseph or Joe), was born on June 11, 1914. He was the first of two sons from the first marriage of our father. His mother, Ano, died prematurely in 1919, leaving five-year-old José and three-year-old Mauricio (1916-1973). Father married again in 1922, giving José six step brothers and sisters. The family was large, with uncles from both sides numbering 26.

A description of the environment near José's home is necessary to understand his interest in nature. The area where our family of European descent settled was in the farmlands of Carmo do Rio Claro in Minas Gerais, approximately 230 miles NW of Rio de Janeiro, Brazil. This area, with mild irregular topography at an altitude of about 2300 ft, was developed during the 1800s and consists of partially cut semitropical

forests. People in this part of the world were wise enough to preserve some untouched parts of forests as reserves. Unfortunately, devastation came after 1945. Our grandfathers used the land for mixed cultivation and grazing cattle. The climate in this region is very mild with temperatures varying mostly between 60° and 80°F. The dry winters during May, June, and July have occasional lows around 30°F, with some frost, but they are absolutely snow free. The rainy season occurs from October to March with a maximum temperature of 90°F. Because of this climate and location, the vegetation is rich and the wildlife plentiful. Before 1945, you occasionally heard of farmers losing cattle to attacks by jaguars. Snakes were common, including rattlesnakes, urutu, jararaca, and corals. As a consequence, snakebites were common. We hunted deer, paca, (*coelogenys paca*), water-hogs, and other animals. There are also many different birds, and the rivers, streams, and marshes were plentiful with fish and caimans.

Nearly all of the goods we needed were produced locally on our farms. As a result, it was necessary for us to import only a few things such as salt, sugar, basic tools, some clothing, and medicine. Our main transportation was by horse and mule. For transporting cargo, we had two large big-wheeled wooden carts, each pulled by six to twelve oxen. Our farm had an orchard and garden that also included medicinal plants and flowers.

We raised cows for milk and sheep for wool; we also had oxen, horses, mules, and donkeys to sell and for work around the farm. Our father had an ass that had only a single eye and, thus, gave him the name



Carvalho family in Rio de Janeiro, 1985. José Carvalho (back), Milza (second row, left), daughter Iara Maria (second row, right), granddaughter Lilian (front row, left), grandson Leonardo (front row, right).

Camoes (after the famous one-eyed Portuguese Poet). Our primary crop was coffee, followed by maize, rice, beans, cotton, sugarcane, and others. The houses were masonry and quite large to accommodate our sizable families.

Hard work was the norm for everyone, including young children. Riding horses was a natural part of country life. Chores included gathering eggs, helping handle the bullocks and shepherding, caring for livestock, and helping raise the crops.

Our grandfathers were a great influence in the education of our family. In our city we had a good nun's college that taught the ladies to become teachers. But the boys had to travel quite a distance to the best high school. Our father and uncles provided considerable knowledge of the sciences, language, music, and religion. In our home we had a bookshelf containing books on varied subjects, including "Natural History" by Buffon that José began reading at an early age. He received a good perspective from his uncles too, who we visited regularly. On Christmas, New Years, Easter, and "City Dedication Day" everyone went to the city for religious activities. This was a good opportunity to visit with cousins and other relatives. Of course the farms had many em-

ployees, and we usually had one of them as a special friend. One of José's first teachers of botany and zoology was such a man, Sebastiao Pereira, our father's "ox cart man." He knew a great deal about nature, particularly the forest, and taught him much about the life there. Nearly every Sunday, they went hunting, fishing, looking for honey, and observing vegetation, birds, and animal signs. This knowledge, besides provoking José's interests, proved particularly important for him later as a researcher, when he went on to explore by himself large areas of the Amazonian forest, as well as other parts of the world. At this time, however, José was being raised to become a farmer.

No doubt José was born a man of great intellect and strong body (6 ft). This was apparent later by his success at college and accomplishments as an athlete. Somehow he remembered having received supplemental feeding on mare and donkey milk as a child. José was quite precocious, and he learned to walk unassisted at seven months. At age three, our father had confidence enough to allow him to go alone on horseback from our farm to the city, a distance of more than 15 miles. A cousin of the same age remembers him finding a bird's nest on a visit to an uncle's farm. He was so young that his coordination wasn't well developed and he inadvertently stepped on the nest. After a few tears, he went on to examine the broken eggs and offspring. After their mother's death, José and Mauricio were cared for between 1919 and 1922 by their aunt Mariana, who became extremely devoted to them. That aunt and another one lived on farms in another city 100 miles away. There José became better acquainted with 16 of his cousins.

After their father's marriage to our mother, they returned to the farm to get to know the new family. Our mother, still alive today at 102 years, and the two stepsons became great friends. Our mother's immediate response to what José was like as a young boy, was "Very good boy, never teased (Nunca Amolou), very good." At that

time, the region received mail by railroad that was about 30 miles away. From the train station a postman delivered the mail by donkey to our city and farms. One of José's first jobs was going to an uncle's farm every other day to bring correspondence and newspapers.

As we described earlier, the area where we lived was rich in wildlife. Needless to say, some parts of it were dangerous because of the high concentrations of venomous snakes. Snakebites were a serious problem, so these parts of the farm were forbidden to the children. One of the forbidden places was a stream (Ribeirao), about a half mile from the farmhouse where the banks were covered with high vegetation and where snakes were particularly abundant. Well, José was a good boy, but one day when our father was away, José went fishing at the brook despite all warnings. He caught a good string of fish and returned to the farmhouse. Unfortunately for José, he and his father arrived together and, no doubt, the fish went flying in all directions. But as an indication of his determination, after the consequences of the encounter subsided, José picked up the fish one by one, went to the kitchen, and asked his stepmother to "please fry these fish for me!"

Until he went to high school, José helped with farm work, learning well his probable future profession as a farmer. He remembers the first Ford car that arrived in the region in 1923. In the late 1920s, dad bought a car, named Oakland. The real political power in small cities of our country was the priest (vigario), a position ranked even above the mayor. After José finished elementary school, dad, convinced that his son should become a priest, sent 8-year-old José to seminary (1923–1924). The life there was of course devoted to religious studies and hard discipline from early morning to bedtime. José, however, didn't like the new life. During his second year at the seminary, he developed an intestinal infection and his health was affected to such a degree that dad went to see him. Looking at his son's situ-

ation, the old man's heart softened to the extent that he changed his plans and sent him to public high school in a city near an uncle's farm. The time in the seminary did instill discipline and patience in José, and resulted in a good basic high school education.

In 1930, our state and the state where José and Mauricio attended high school, were adversaries in national politics and the situation progressed to an armed revolution. Uncle Antonio sent his best employee Alfredo on horse back to rescue Joe and brother Mauricio and bring them back to the farm's safety. They fled well before daybreak and remained at the farm until the armed conflict ceased.

When José was in high school, the economic horizon on our father's farm was bright and great investments were made in coffee culture and mechanical processing. Then came the effects of the world economic crisis in the late 1920s that severely affected dad's plans. Farmers were obligated by the government to burn part of their coffee production to keep prices level. Mother and grandmother knew José needed a better education, and convinced dad to send him to the Agriculture and Veterinary school in the city of Viçosa. José was only 15 but minimum age was 16, so father had to lie about his age to get him admitted. [This Vicosa School, now a facility of Minas Gerais State University, was created in 1927 under a grant from the U.S. Government under the supervision of Professor Peter Henry Rolfs, a U.S. citizen]. There José studied, learned, worked, and practiced sports with great energy and enthusiasm and graduated at the head of his class. After graduation, he returned to help his father and work on the farm he inherited from his mother. He and brother Mauricio often competed to see which one could carry the biggest load of coffee. Both were able to handle around 200 lbs. José was always interested in wildlife, and he frequently recruited his sisters to help hold different animals—from rattlesnakes to bats. He often helped exterminate ant

nests for the neighbors. Mother remembers she didn't like caterpillars and the time she asked José to remove a tobacco plant from a grassy area she used for drying clothes. Moments later José came back with several caterpillars in the palm of his hand and said "Look, they won't harm you. See, I can even put one on my tongue." We also remember a collection of 21 rattlesnakes in a room of his farm; they were eventually donated to a laboratory to make vaccines.

The effects of the depression persisted, so in 1934 José decided to go back to school at Viçosa and with great effort passed the examinations to get into veterinary school. A new stint of hard work began, coupled with success in athletics to the point of being selected to represent Brazil in the 1936 Olympic Games in Berlin. However, while training, José pulled a muscle that eliminated him from competition. His "globe-trotter" career began in 1937, when he participated in an international university invitational in Paris, where he won fourth place in pentathlon. Sports aside, he still managed to find time to visit the museums in Paris.

His student and athletic career at Viçosa ended in 1938 with graduation. While at school, he became interested in parasitology and zoology. In January 1939 he went to Rio de Janeiro to pursue research on ticks and the protozoans they transmitted. In February, he returned to Viçosa as a teacher and researcher. His first scientific work, published in 1939, was initiated as a student in 1937 and dealt with protozoans of *Rana catesbiana* Shaw.

The diversity of people José knew as a boy and teenager gave him a great facility for making friends with everyone from Indians in Amazon jungle to world VIPs. One of the best things that happened to José was the marriage to Milza Freire, the daughter of a farmer from our city in October 1939. This well-educated, charming, and petite woman proved to be a great companion for José. Following their marriage, our father died prematurely in November at age 57.

Remarkable to us was his travel to the United States in 1941 just before World War II, the result of a scholarship he received from Viçosa for his teaching and dedication to research. He went to the University of Nebraska in Lincoln for his M.S. Because of his many new friends and his own research efforts, he was admitted to the Ph.D. program at then Iowa State College in Ames. For his dissertation, he studied parasites of rabbits. His athletic training served him well, and rumors began to circulate that he could run down and catch cottontails and jack-rabbits. This story was published in the university newspaper, and soon the football and other athletic coaches were after him to join various university teams. However, he declined (he later claimed he could catch only young rabbits), preferring to concentrate on his studies instead. In 1943 he received his Ph.D. (thesis #689). Impressed on his mind was the quote at the University's library: "You shall know the truth and the truth shall make you free."

In May 1943, José and Milza returned to Brazil after a complicated trip through Panama and along the west coast of South America (because of German subs in the Atlantic) to Chile. From there, they traveled by train to Buenos Aires and home.

From then on, José's professional career soared and he went on to hold numerous important positions, including the directorship at the National Museum of Natural History in Rio de Janeiro and the presidency of the XVI International Congress of Entomology, held in Kyoto, Japan. But these are the years best conveyed by his wife Milza. Even at 80 years, José, in company with Milza, his daughter Iara, a granddaughter Lilian, and a grandson Leonardo (the latter two of which are law students) continued to work with his insects on a daily basis until his death on October 21, 1994. Sometime before, he said to me "A hundred years, the maximum one can expect to live, is too short a time to accomplish everything."